mass types and also to the probable range of equivalent-potential temperatures. In view of recent discoveries of the meteorological significance of isentropic charts it is further recommended that more attention be given to the slope of potential temperature surfaces in situations free from condensation. Allowance should be made for the possibility of horizontal mixing on isentropic surfaces and unless the isentropic surfaces in one air mass actually intersect the ground or at least show a sudden increase in slope, the synoptic analyst should label the air masses differently with caution.

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This book, as implied by the title, emphasizes the physical rather than the descriptive or statistical aspects of meteorology; it is primarily an elementary exposition of the fundamental physical laws to which atmospheric phenomena conform, and an application of these laws to the explanation of the more important physical phenomena of the atmosphere. The book is intended as an introductory college textbook. It presupposes a working knowledge of physics, although a chapter on the principles of the theory of heat is included. The treatment is essentially nonmathematical, but a number of simple mathematical formulae are quoted and derivations are given for most of them.

The introductory chapter is devoted to a description of the scope of meteorology and its place among the sciences, with a brief historical sketch. After a chapter on the atmosphere in general, the succeeding chapters consider in detail, barometric pressure, temperature, insolation, and atmospheric water vapor. A chapter on the thermodynamics of the atmosphere includes a discussion of lapse rates and stability; and is followed by chapters on the wind, the dynamic theory of air movements, and a brief description of the planetary circulation. Consideration is next given to condensation, clouds, and the various forms of precipitation, followed by two chapters on tropical and extratropical cyclones, including a description of tornadoes and brief reference to the methods of air-mass analysis. The book is concluded by chapters on atmospheric electricity (including the aurora), thunderstorms and lightning, atmospheric acoustics, and atmospheric optics.—*Edgar W. Woolard.*

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[RICHMOND T. ZOCH, *in Charge of Library*]

By AMY P. LESHER

RECENT ADDITIONS

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